

TRANSITION METHOD, NETWORK DEVICE, AND TERMINAL DEVICE

TECHNICAL FIELD

[0001] Embodiments of the present disclosure generally relate to communication technologies, and more particularly, to a transition method, a network device and a terminal device.

BACKGROUND

[0002] In the fifth generation (5G) mobile communication systems, a terminal device has three states, namely, a Radio Resource Control (RRC) idle state, an RRC connected state, and an RRC inactive state. A terminal device in the RRC connected state may transition to the RRC idle state or the RRC inactive state when there is no data traffic. Which state the terminal device transitions to is a problem that needs to be solved.

SUMMARY

[0003] Embodiments of the present disclosure provide a transition method, a network device and a terminal device to improve system performance.

[0004] According to a first aspect, there is provided a transition method, including:

[0005] receiving, by a network device, supporting information associated with a terminal device which is sent from the terminal device;

[0006] determining, by the network device, a target state of the terminal device to be transitioned to according to the supporting information, wherein the target state is a Radio Resource Control (RRC) idle state or an RRC inactive state; and

[0007] enabling, by the network device, the terminal device to transition to the target state.

[0008] The supporting information associated with a terminal device may be some specific information for supporting or assisting a network device to determine the target state of the terminal device to be transitioned to. For example, the supporting information may be mobile state information of the terminal device, some transmission characteristics of the current service of the terminal device, and the like.

WHAT IS CLAIMED IS:

1. A transition method, comprising:
 - receiving, by a network device, supporting information associated with a terminal device which is sent from the terminal device;
 - determining, by the network device, a target state of the terminal device to be transitioned to according to the supporting information, wherein the target state is a Radio Resource Control (RRC) idle state or an RRC inactive state; and
 - enabling, by the network device, the terminal device to transition to the target state.
2. The method according to claim 1, wherein the supporting information comprises mobile state information of the terminal device and/or arrival time interval information of a current service of the terminal device;
 - wherein determining, by the network device, a target state of the terminal device to be transitioned to according to the supporting information, comprises:
 - determining, by the network device, the target state according to the mobile state information and/or the arrival time interval information.
3. The method according to claim 2, wherein determining, by the network device, the target state according to the mobile state information comprises:
 - if a moving speed of the terminal device is greater than or equal to a first threshold, determining by the network device that the target state is the RRC idle state; and
 - if the moving speed of the terminal device is smaller than the first threshold, determining by the network device that the target state is the RRC inactive state.
4. The method according to claim 3, further comprising:
 - determining, by the network device, the first threshold from a plurality of thresholds corresponding to the terminal device.
5. The method according to claim 4, wherein the plurality of thresholds correspond to a plurality of bearers of the terminal device or a plurality of data streams of the terminal device.

6. The method according to claim 2, wherein determining, by the network device, the target state according to the arrival time interval information comprises:

if the arrival time interval of the current service is greater than or equal to a second threshold, determining by the network device that the target state is the RRC idle state; and

if the arrival time interval of the current service is smaller than the second threshold, determining by the network device that the target state is the RRC inactive state.

7. The method according to claim 6, further comprising:

determining, by the network device, the second threshold from a plurality of thresholds corresponding to the terminal device.

8. The method according to claim 7, wherein the plurality of thresholds correspond to a plurality of bearers of the terminal device or a plurality of data streams of the terminal device.

9. The method according to claim 1, wherein the supporting information is a state which the terminal device is intended to transition to;

wherein determining, by the network device, a target state of the terminal device to be transitioned to according to the supporting information comprises:

determining, by the network device, that the target state is the state which the terminal device is intended to transition to.

10. The method according to any one of claims 1 to 9, wherein enabling, by the network device, the terminal device to transition to the target state, comprises:

if the target state is the RRC idle state, releasing by the network device all radio bearers between the terminal device and the network device; and

if the target state is the RRC inactive state, releasing by the network device a part of the radio bearers between the terminal device and the network device.

11. A transition method, comprising:

obtaining, by a terminal device, supporting information associated with the terminal device; and

sending, by the terminal device, the supporting information to a network device, so that the network device determines a target state of the terminal device to be transitioned to, wherein the target state is a Radio Resource Control (RRC) idle state or an RRC inactive state.

12. The method according to claim 11, wherein the supporting information is a state which the terminal device is intended to transition to;

wherein obtaining, by a terminal device, supporting information associated with the terminal device, comprises:

determining, by the terminal device, the state which the terminal device is intended to transition to.

13. The method according to claim 12, wherein determining, by the terminal device, the state which the terminal device is intended to transition to, comprises:

determining, by the terminal device, the state which the terminal device is intended to transition to according to mobile state information of the terminal device and/or arrival time interval information of a current service of the terminal device.

14. A network device, configured to perform the method of any one of claims 1-10.

15. A terminal device, configured to perform the method of any one of claims 11-13.